NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

SHALLOW WATER MANAGEMENT FOR WILDLIFE

(ACRE)
CODE 646

GENERAL SPECIFICATION

Procedures, technical details and other information listed below provides additional guidance for carrying out selected components of the named practice. This material is referenced from the conservation practice standard for Shallow Water Management for Wildlife (646) and supplements the requirements and considerations listed therein.

PURPOSE

To provide open water areas on agricultural fields and moist soil areas to facilitate waterfowl resting and feeding. To provide habitat for wildlife including reptiles, amphibians, shorebirds, raptors, and upland species.

MANAGEMENT

Fluctuating water levels encourage native plants, which are adapted to such conditions. These semi-aquatic plants are desirable for wildlife food and cover. The drainage or drawdown of the water is what stimulates plants to germinate seed. The timing of drawdowns will allow certain species to take advantage of the conditions. Through artificial application or drainage of water these fluctuations can be achieved.

Drawdowns can be fast or slow and will result in different vegetation communities. Fast drawdowns of 2-3 days to dry out, tend to result in uniform single species plant groups. Slow drawdowns of 12-14 days or more, tend to result in a more diverse vegetation community.

Likewise, drawdowns can be accomplished on a seasonal basis. For instance, early drawdowns before May 15 are beneficial to northward migrating waterfowl and shorebirds by providing access to seeds, new growth plants and invertebrates on exposed mudflats. Mid-season drawdowns between May 15 and July 1 stimulate other plants and provide habitat for local resident wildlife. Fall drawdowns provide habitat for southward migrating waterfowl, shorebirds and other wildlife including food and cover during fall and winter.

Desirable water depths progress from upland to mudflats, shallow (0-6”), mid-depth (6-12”) and deep (12-24”).

The combination of drawdown speed, season of drawdown and water depth creates a very flexible method, which is adaptable to any area.

While the drawdown process stimulates germination of seeds, the opposite is true for problem plants. Flooding for long periods will kill such undesirables as cocklebur, milkweeds and some woodys. Midsummer discing may be necessary for weed control in some situations and not all plants can be controlled in this way. Multiple discings will be needed for some small woody species.

Annual plants produce an abundance of seeds. Annual discing tends to produce annual plants.

Lack of discing tends to allow perennials to persist. Perennial plants produce more biomass for cover during winter and many are excellent seed producers. Adequate cover becomes increasingly important in late winter.

Moist-soil fluctuations over several years in a row tend to produce perennial plants.

Water levels can be increased gradually to a maximum of 12 inches as the desired plants grow, but water levels should generally equal only about one-third of the total height of newly established plants. If plants develop a light-green cast, the water is probably too deep and should be lowered immediately.

Desirable vegetation for waterfowl and shorebird food are listed below:

- smartweeds (Polygonum sp.)
- barnard grass (Echinochloa sp.)
- beggarticks (Bidens sp.)
- panicum (Panicum sp.)
- sprangletop (Leptochloa sp.)
- spikerush (Eleocharis sp.)
- sedges (Carex and Cyperus sp.)
- rushes (Juncus sp.)
- dock (Rumex sp.)
- pigweed (Amaranthus sp.)

Most herbicides today do not persist in the environment for extended periods. However, beginning efforts at moist-soil management may suffer from recent residual herbicides. This should decline over time, but will need to be considered in planning.

STRUCTURES

Structures for water control will be needed to facilitate flooding and draining of moist-soil areas. Control boxes, berms, dikes or pipelines may be used. The Standards and Specifications for these facilitating practices can be found in the NRCS Field Office Technical Guide.

Nest boxes, birdhouses and other artificial structures may be desirable to provide habitat for a variety of wildlife at or near the shallow water area.

OPERATION AND MAINTENANCE

Weed control may be needed to eliminate or reduce competition from undesirable plants. This can be accomplished by flooding the area for several weeks when plants are small.

Discing may also be necessary if the area is to remain dry during the summer.

Pesticides and other chemicals shall not be used.

A long-term plan for maintenance should be produced at the beginning and should include monitoring of the site to insure that desired results are being obtained. Careful records must be kept for future refinement of management of water and drawdowns to be able to obtain the desired results.

Adequate water must be available for use in management of the area.

REFERENCES

Fredrickson, Leigh H. Management of seasonally flooded impoundments for wildlife. USDI, Fish and Wildlife Service, Resource Publication No. 148, Washington D.C. 1982.